

February 2013 AcquiSuite/AcquiLite Firmware changes.

Firmware updates for the A7810, A8810 and A8812 have a number of substantial changes. Users should be aware of these changes and how these may impact any custom applications that may have been developed. Although great care has been taken to maintain the previous feature set, users should test the firmware update prior to deploying this firmware on production equipment.

The firmware update will be provided at no cost.

Firmware release for A7810, A8810, A8812: v02.13.0211

Overview of changes:

This firmware update includes a number of minor changes as well as several new drivers.

New Drivers

- Added driver for the A8814 / AcquiSuite+
- Added device id string for Refusol European inverters (requires additional module)
- Added device id string for Square-D branch circuit power meter models BCPMx.
- Added driver for Triacta PowerHawk 4xxx and 6xxx meters, 1, 2, and 3 phase versions
- Added Obvius Power Meter Simulator driver to simulate meter data for testing purposes. This driver can only be used by clicking the “add” link on the bottom of the device list page and manually configuring it with a Modbus address.

Major features

- Log data can be saved to USB flash drive using a new USB uploader target in the upload configuration page. Flash drives can be installed, and configured to store log data from the AcquiSuite.
- Added optional check for upgrades feature that will automatically download and install firmware and AcquiSuite modules. *This feature is enabled by default and will check for firmware upgrades weekly.* Users that do not wish to allow AcquiSuite and AcquiLite devices to upgrade automatically must disable this feature after upgrading.
- Modbus diagnostic messages now displayed on the Modbus device list page, and the link to manually run the diagnostics has been removed.
- Added graphical console support for A8814 hardware.

Security Updates

- Webserver (thttpd) update provides feature to redirect all web browser activity to the https:// interface (requires additional module)

Other Firmware Changes:

- Support for BACnet module.
- Support for SSL module with https web browser administration interface.
- Added several features to capture diagnostics at boot time, and log based on the reason for the reboot. Includes a7 reset and power-fail detect on A8812.



- Fixed a problem with controlling arm7 vs rs485 control from nvsetup in A8814. (bug was present in A8812 but is harmless in that platform.) Added additional diagnostic warnings to nvsetup. Added ability to report additional information at startup about the system reboot cause on A8812 platform. Includes pf=0/1, a7wd=0/1/2/3/t information to BMO or other webserver in the status message post. (note: pf=PowerFail, wd=watchdog)
- Fixed issue with truncation of warning messages in the page footer. Now expands memory allocated for the footer as needed.
- Webserver will send "Cache-Control: no-cache" when providing http-->https redirect.
- Minor library updates to guard against string truncation.
- Added model number support and voltage monitor for A8810-DN/DB variants.
- Added model number support and voltage monitor for A8814
- Fixed log startup procedure to verify and not start two copies of syslogd.
- Fixed issue with upgrade on boot procedure to prevent mount problems. Speed up install, and add support for A8814 meter firmware install.
- Support for reloading process monitor (inittab) when changed, and support for loading process list dynamically for modules. This feature is used by new modules including BACnet, and Speedlogger.
- Added feature to allow modules to specify default settings to be included in configuration files.
- Fixed problem with saving ini files might leave a temporary file when the ini save fails.
- Work on unifying unit of measure into a system library for all data logging functions. This will provide support to the BACnet module.
- Setup webpages will now verify that something changed in the ini file before writing out any changes.
- Added system function to report the expected presence of device 250 for A8812 and A8814 models.
- XML for device list now includes information about the error per device and system wide diagnostic messages.
- Fixed problem so that system/status page reboot always puts "admin reboot" in reboot log file.
- Added feature to sysvinit to allow modules to specify processes to be spawned at runtime dynamically rather than pre-configuring all processes in the module configuration file. Improved init's ability to start and stop these processes when changed.
- Changed hotplug to log messages to the dev/kmsg rather than serial console so that USB messages will appear in the kernel boot log.
- Updated MIME type for .js files from application/x-javascript to application/javascript per RFC4329.
- On the A8812, boot will now fail if PWR_IN < 12VDC. Instead rc.sysinit will blink an error on the LCD for 1 minute & reboot. Older firmware would boot but would improperly determine the model number and the features enabled would not be correct for the hardware. Typically seen with an A8812 is powered with a 9v brick.
- Telnet and FTP now disabled by default. (may be enabled in networking/setup)
- Add 'usefree' and 'flush' mount-options to /mnt/usbdisk: 'usefree' significantly speeds up mounting of USB drives (by avoiding recalculation of free-space on every mount), and 'flush' causes kernel to flush data faster in case of removal.
- Support for new Multitech modems MTSMC-G2, MTSMC-G2-U and MTSMC-H5.
- Modem configuration page now shows IMEI, sim card, carrier, and connection type for cellular modems.
- Fixed
- General CSS updates to improve UI.
- Auto-firmware update messages are displayed on the LCD console.
- Relay library expanded to handle commands from the BACnet protocol module.
- Fixed truncated message in the senddata upload log.
- When viewing log files, log viewer now offers to start syslog if not already running.
- Fixed typo in Modbus error message for Modbus discover and rio-9f for Illegal data value message.
- Consolidated unit descriptions in a library to make translation to BACnet easier.
- Cleaned up some signed with unsigned print format typos in Modbus data point library.
- Moved row class flags to common library for use in BACnet protocol module.
- Allow cache times to be configured by BACnet module.



- Added feature to allow A90DC driver to configure the polarity invert register 41027 flag.
- Added function to modbus tcp library to indicate if error is worth retrying or should be abandoned immediately. e.g. configuration or authentication errors.
- Added fix to ini file load procedure to trim whitespace from any ini file parameter.
- Added feature to AcquiSuite modules to allow a hook for setting permissions on temporary files.
- Simplify structure field names for pulse input to be used on touch screen.
- Updated button (menu/select) function to reduce cpu load when button is pressed and held.
- AcquiSuite hardware model detect now initializes ep93xx registers
- Update ADC library to handle A8814 hardware.
- Update model types to handle A8810-DB and A8810-DN hardware model number variants.
- Updated Obvius logo png file with a transparent background.
- Clarification to the Modbus new device dialog error message to explain that a remote Modbus device can not be added at Modbus address 250.
- Updated GetSetFileString() library interface to use constant values to silence compiler warnings.
- New features added to log file viewing tool to allow filtering log files by keyword, either to include or exclude matching lines. This can be combined "include1,include2,-exclude3"
- Cleaned up some library cruft for byte swapping library procedures.
- Cosmetic fix to correctly print the page footer BELOW the body of the page
- Cosmetic fix: When removing a meter, change the message to say "The log files for the Modbus device are now scheduled for removal during the next upload cycle" since logs are not immediately removed.
- Clean up html dialog print library function (no functional changes)
- Clean up library compiler prototype matches in GetLanIPNumber().
- Added status function to track the status of last upload cycle.
- Log file viewer properly escapes html characters.
- Added purge, filter and wrap button/box to log file viewing page.
- Added help file for log file viewing page and new features.
- Library updates to warn of string truncation when formatting strings.
- Fixed spurious warning when os upgrade URL is overridden to a bogus server.
- Added library function to get LAN address from either ethernet or wifi.
- Minor updates to process list page to show shared/private memory correctly.
- Added alarming feature to warn when an assert fails.
- Fixed typo in javascript alert dialog.
- Updated sensor log program to use correct NUMPOINTS field in configuration file. Original version returned 2 columns, however there are some 400mhz sensor devices that only have one column.
- Expanded os upload page (have disk) to show errors in manifest file name, version, size or checksum.
- Added debugging tools to look at processes launched by modules.
- Firmware auto-upgrade feature now has the ability to reboot the AcquiSuite, with user options to reboot immediately or postpone.
- Added ability for module manager to kill misbehaving process groups.
- Builder initials are included in beta builds now.
- Fixed broken HTTP Get request for ReceiveConfigFile which is missing cgi arguments.
Ok in v02.11.1116, broken in v02.12.0613, Fix build warning by removing unused parameter in logprintf.
- Library improvements to make print functions more compatible with CGI and HTML output.
- Senddata will read auto-update's last run status and continue with firmware install depending on exit code.
- When senddata starts, terminates or is killed by signal, it clears the upload cycle status to avoid leaving stale information on the status webpage or LCD.
- Senddata status page now shows per channel status information.
- Update manager to avoid signaling senddata.
- Added firmware upgrade logging. (manual and automatic firmware updates both logged install.log).
- Added feature to USB data upload
- LCD messages use short date format to allow more debugging information on screen.
- Log file display page will show key words (SIG handlers) in red if important.



- Senddata will organize subprocesses in a group.
- Modmgr and update manager will check to see if a proxy is in use.
- Senddata will now report “Sync Time With Network” on LCD and “Log File Data / Status” page.
- Code cleanup to use consistent { } brace style.
- When updating firmware automatically, Senddata will run an upload cycle after firmware is installed on startup to check for additional firmware updates.
- Update manager set to run while PPP is running, and show LCD message when active.
- Added better handling of missing module tools in compiler warnings.
- Fixed build: diff manifest works on Fedora 17 host compiler now.
- Simplified install.log file to just “Install Log”
- Added usbcp tool to copy files to USB flash disk.
- usbcp now queries the low-level USB info for block device /dev/sda using the name Linux device name "sda". This should give the proper USB details whether or not a hub is used.
- USBGetDeviceInfo and "USB Devices" page now handle block devices such as /dev/sda, /dev/sdb, etc.
- Fix missing apply button when no modules are present Rework version page so autoupdate options are at the bottom and apply is always present.
- Fix improperly setting lastrun time when user postpones an update
- Updated usb uploader help file with more feature summary and user guard rail notes.
- Fix to hide XML warnings in Chrome when navigating away from a page with background updates.
- Fixed a bug in the havedisk firmware update tool that would fail to install firmware updates with specific byte patterns in the binary file.
- Updated MIME type from text/javascript to application/javascript per RFC4329 in html library code.
- Project compiles readme_firmware_install.txt file with checksums automatically now.
- Added javascript to handle dynamic footer portion of configuration pages. Dynamic footer reminders now update themselves every 3 seconds without reloading the entire page.
- Updated GPRS error messages added to support latest device documentation.

